

# Which opportunities do local governments have to support smart purchasing and clean urban logistics?



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Workshop on Smart Purchasing in Logistics

**BIJEENKOMST LOGISTIEK010**

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# Smart Purchasing in Urban Logistics

1. Public authority “purchases” sustainable logistics services
  - Tenders specifications
  - FORS and other accreditation schemes as one of the specification criteria to be fulfilled by the tenderer
2. Large operator or institution “purchases” clean subcontractor services

Multiple actors are integrating sustainable solutions into purchasing procedures

Good solutions are either not perfect or not available at market prices yet → R&D needed

## Bottom-up *and/or* Top-down

- **Bottom-up** approach to sustainable operation:
  - First develop a case; assess if the change is more sustainable; if yes then develop a replication and a supportive strategy for long term development
  - Learning objective: Understanding of sustainable operations out of case studies, tests, innovations
  - Very little general rule how to do a smart purchase of a sustainable operation in freight & logistics
  - Tentative coordinated bottom-up?
- **Top down** strategy: increase taxes first and see later how the sector is developing
  - Thesis after French eco-tax cancellation: did all top-down strategies have failed so far?
  - Coordinating top-down *and* bottom-up approach?

## Project references in Europe

- CIVITAS CITYLAB City Logistics in Living Laboratories (2015-18) <http://www.citylab-project.eu/>
- BESTUFS BEST Urban Freight Solutions (2001-2008) [www.bestufs.net](http://www.bestufs.net) + BESTFACT (2012-2016) [www.bestfact.net](http://www.bestfact.net)
- NOVELOG New Cooperative Business Models and Guidance for Sustainable City Logistics (2015-2018) <http://novelog.eu/>
- SMARTFUSION (2012-2015) [www.smartfusion.eu](http://www.smartfusion.eu)
- CITY PORTS 'A network of cities following a co-ordinated approach to develop feasible and sustainable city logistics solutions' (2003-2006) [www.cityports.net](http://www.cityports.net)
- CITY-MOVE (2009-2012)
- FIDEUS 'Freight Innovative Delivery in European Urban Space' (2005-2008)
- FREILOT (2009-2012)

## Examples of solutions in Europe (2)

- NICHES 'New and Innovative Concepts for Helping European transport Sustainability' (2004 - 2007)  
[www.niches-transport.org](http://www.niches-transport.org)
- SMARTFREIGHT <http://www.smartfreight.info>
- START 'Future solutions for goods distribution' (2006-2009),  
[www.start-project.org](http://www.start-project.org)
- SUGAR 'Sustainable Urban Goods Logistics Achieved by Regional and Local Policies' (2009-2012)  
<http://www.sugarlogistics.eu/>
- Programme « Goods in Cities », ADEME & French Ministry of transport, [www.transports-marchandises-en-ville.org](http://www.transports-marchandises-en-ville.org) (since 1993)

## UK examples

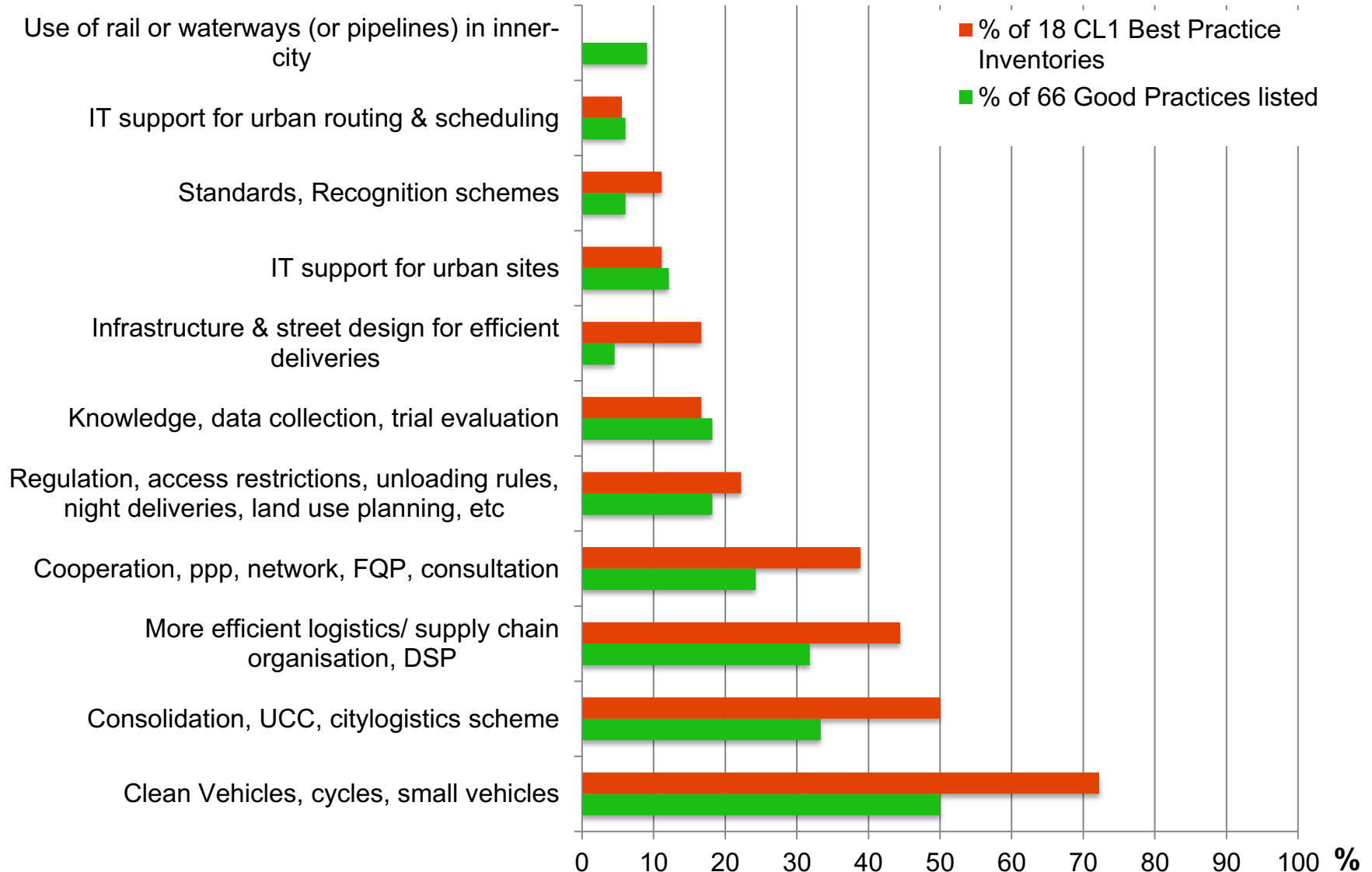
- Transport for London freight plan  
<http://www.tfl.gov.uk/microsites/freight/>
- London Lorry Control Scheme  
<http://www.londonlorrycontrol.com/>
- London FQP <http://www.londonsfqps.co.uk/>
- Green Logistics, urban freight module  
<http://www.greenlogistics.org/>
- Freight Best Practice  
<http://www.freightbestpractice.org.uk/>

*Involving Municipality of London, TfL, London Boroughs authorities, National Department of Transport, Companies, Research Council, Universities*

## Initiatives: criteria for 'good practice'

- Recognition in the expert community: high
- Replication in different cities: more than 2 cities
- Applicability and feasibility: easy to difficult
- Impacts to be assessed with data:
  - High impact on km driven: total trucks-km, vans-km
  - Lowering emissions: total CO<sub>2</sub>, CO<sub>2</sub> intensity per tkm, per parcel, PM, NOx
  - Relatively low costs per km avoided
  - Lowering noise: dB(A) reduction
- Existing quantified evaluation: yes-no
- Before-after data: yes-no
- Transferability to other cities: easy to implement?

# Multiple sustainable solutions





# Interporto Padova case study



- Cityporto transit point is located inside the freight village area of Interporto Padova
- 2 miles outside the City Centre, close to the major highways
- Urban delivery of goods with a fleet of hybrid and CNG vehicles

Savings in:

- Mileage: 1200 km/day
- Fuel: >30,000 litres/year
- Emissions of CO2 and pollutants



## Costs, data, impacts

- Costs: started 2004, self sustained in 2007, Benefits to Cost Ratio for the period 2008-2013: 2.94
- Data: True before-after data of a client joining the scheme are missing. High load factor and CNG vehicle use are key cost positions for profitability analysis
- Impacts: 0.5 million km saving per year, 220 tonnes of CO<sub>2</sub>

## Barriers, success factors and transferability

- Market barriers removed: key success factor was to allow a special regime for Cityporto CNG vehicles with no time windows for loading/unloading in the ZTL (Limited Traffic Zone). Also key was the independent manager enabling trustful cooperation with new customers, and excellent stakeholder involvement/participation at city level
- Transferability: Aosta and Modena have started a similar Cityporto scheme, other cities are preparing new initiatives.

# CITYLAB London Gnewt Cargo/TNT tests

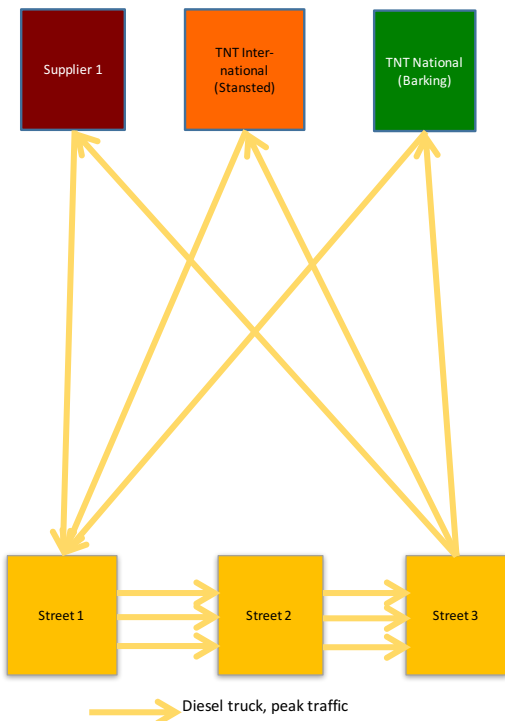
## Before-After comparison of UDC + electric vans



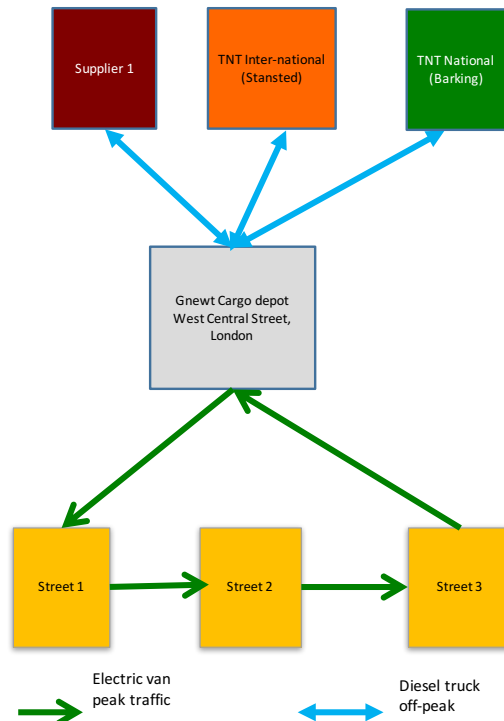
Before data collection: 5 weeks in Sep 2015 – After: Mar 2016, same delivery area, £2/drop

### Logistics Model of Gnewt Cargo: multi-carrier multi-depots consolidation of deliveries

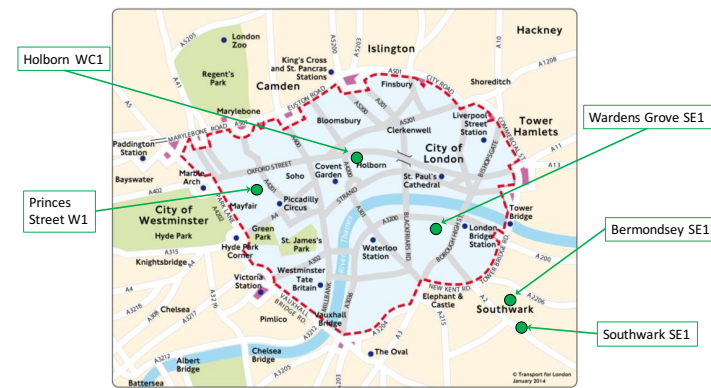
BEFORE starting using Gnewtcargo



AFTER starting using Gnewtcargo



Limits of the system of data collection



## London tests results 2017

BEFORE deliveries starting from Barking	Number of vehicle trips per day	Monthly distance in km	Parcels delivered during month	Distance in km/parcel
Van TNT domestic	10	24,647	30,089	
Average				0.82
AFTER Gnewt Cargo operations				
Electric Van Gnewt	10	5,663	21,211	0.267
% reduction	0	77		67

# San Sebastian Donostia UCC + Clean vehicle

## Costs data 2010 to mid-2012

Concept	2010	2011	2012
<b>Expenses</b>	<b>-69,920.05</b>	<b>-164,553.08</b>	<b>-55,851.06</b>
Suppliers	-33,759.83	-53,486.40	-15,719.71
Staff	-36,160.22	-111,066.68	-40,131.35
<b>Incomes</b>	<b>67,294.85</b>	<b>108,643.88</b>	<b>34,581.22</b>
Invoices	23,294.85	71,781.38	34,581.22
Subsidy CIVITAS	40,000.00	30,000.00	-
Subsidy EVE	4,000.00	5,690.00	-
Subsidy Webpage	-	1,172.50	-
<b>Partial result</b>	<b>-2,625.20</b>	<b>-55,909.20</b>	<b>-21,269.84</b>
Other incomes	41,432.70	121,463.59	7,655.84
<b>Result**</b>	<b>38,807.50</b>	<b>65,554.39</b>	<b>-13,614.00</b>
<b>TOTAL*</b>	<b>90,747.89</b>		



# Innovative traffic/ street space management



*before*



Monitoring CCTV

*now*





## Multi use lanes in Barcelona

6 boulevards today are “multi uso” with side lanes restricted to:

- **8:00 to 10:00 general traffic**
- **10:00 to 17:00 pick up and deliveries only**
- **17:00 to 21:00 general traffic**
- **21:00 to 8:00 on street residential parking**

Variable message signs inform drivers of the regulation in real time

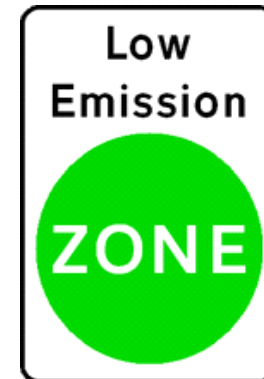
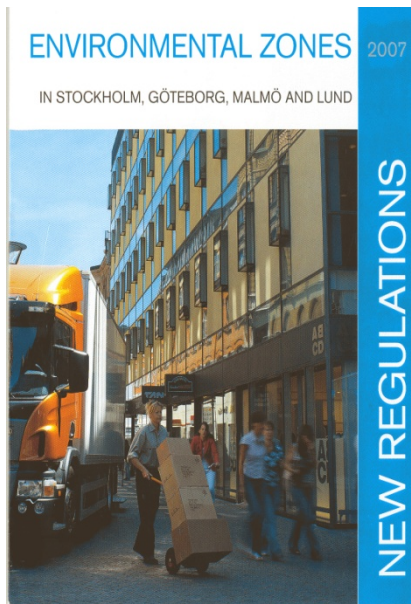


## Transfer: Multiuse Lanes in Bilbao

- The idea resides in taking a lane to function more 'natural', meeting the needs of traffic and based on time slot:
- Free parking: from 9:00 pm to 8:00 am
- Booking for loading and unloading (heavy vehicles only): from 08:00 am to 12:00 noon
- Normal circulation: from 12:00 to 9:00 pm
- Transfer from Barcelona (why only here?)



# Environmental zones, access regulations, noise and night deliveries



## Night deliveries

- Night deliveries promoted in the Netherlands (PIEK program), in UK, Dublin, Barcelona, Paris
- Silent equipment (vehicle, handling equipment...) developed, working  $<60\text{dB}$



- <http://www.piek-international.com/>

## Providing dedicated logistics space

- A 'specialty' of French cities
- Cities (Paris, Toulouse, Lyon) provide spaces in strategic places (such as underground municipal car parks) to logistic service providers
  - who respect a set of specifications (environmental criteria)
  - via tenders





## Zero Emission Boat in Utrecht

- Delivery of 4 breweries and 1 catering industry to 65 clients along the canals of Utrecht is performed via an electric zero emission boat
- Cost efficient, time-efficient (not dependent on time windows)
- Reducing almost 17 tonnes of CO<sub>2</sub>/year
- Preservation of the bridges and roads of Utrecht
- Publicly owned (small private costs)







# Franprix- XPO barge solution for retail supplies in Paris



## Mokum Mariteam in Amsterdam

- Full-electric barge with own crane, operating in Amsterdam
- 20 m length, 4.25 m width, 85 m<sup>3</sup> load capacity



- Barge is used together with trucks and vans
- Replication from Utrecht Best Practice of electric Beer Boat



# Chapelle International, urban rail hub in final stage in Paris



- Rail freight terminal
- Electric vans
- Access for large trucks
- 90 million EUR construction investment

## Consultation, PPP, charters between local authorities and freight transport operators

- London's 'tradition' for negotiating with transport organisations (Freight Transport Association)
- London's Freight Operator Recognition Scheme
  - Training of operators in fuel management, penalties, safety
  - Offering a market access to bronze, silver and gold certified companies
  - >4700 accredited FORS member businesses in UK, Oct 2017



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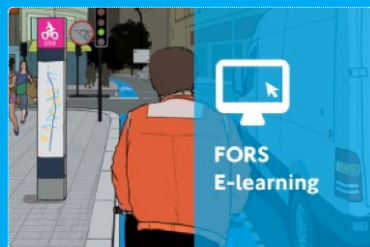
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## ONLINE DRIVER TRAINING



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## WHO'S ON BOARD?

### FORS accredited companies

Many companies are already taking advantage of the benefits offered by the FORS accreditation scheme.



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## LATEST NEWS

### VAN SMART DRIVER TRAINING

Posted on October 15, 2015 by admin

Van Smart is a Transport for London (TfL) backed driver training programme that aims to reduce work related road risks,

## Concluding remarks

# Purchase of sustainable urban logistics solutions

- **Innovations:** Many solutions, slight dominance of consolidation and clean vehicle projects
- **Transferability:** Very few large scale transfer, mostly limited to another company, upscale within a company or transfer to another city
- **Impacts and Benefits:** Very high benefits but difficulty with quantification of robust impacts estimates
- **Data availability:** Biggest difficulty is with data on the 'Before' situation, in order to obtain the business case information out of the trials and tests
- Rare assessment of transfer or **upscaling** of solution: Prototype→Trial→Industry Scale